

## **A2 Risk assessment for the handling of armourstone at quarries or on site**

The quarry operator, supplier and contractor should enforce stringent health and safety procedures applicable to the legislative instruments in the country in question. Handling and testing armourstone is a hazardous activity, due to the huge masses and heavy machinery involved. Appropriate risk assessment should be carried out.

This appendix includes a typical template for risk assessment and an example of a completed risk assessment. The example given is for loading armourstone onto a barge at the quarry's jetty loading facility. Hazard likelihood and severity of consequences are itemised and scored. The product of the hazard likelihood and associated consequence is the risk score associated with each hazard. Hazard mitigation controls are then assigned. New risk scores can then be quantified in the light of the controls to be implemented.

Risk assessments should be carried out for the separate activities identified as potentially hazardous. These activities could include for example, performing mass distribution tests and block integrity tests. The risk assessment process should be overseen by the person responsible for health and safety.

# RISK ASSESSMENT

Quarry/depot/site: \_\_\_\_\_

Location: \_\_\_\_\_

Ref. No: \_\_\_\_\_

Assessment date: \_\_\_\_\_

By whom: \_\_\_\_\_ Assisted by: \_\_\_\_\_

Activity: \_\_\_\_\_

Next review due: \_\_\_\_\_

Who might be harmed?

Employees	Nos.	Contractors	Nos.	Visitors	Nos.	Young persons	Nos.	Public	Nos.	Others	Nos.
	<input type="text"/>		<input type="text"/>		<input type="text"/>		<input type="text"/>		<input type="text"/>		<input type="text"/>

Ratings before existing controls Implemented	Ratings after existing controls Implemented											
	Hazard likelihood											
	Severity consequences	Environment Healthy & Safety		5 Likely - 4 Probable - 3 Possible - 2 Remote - 1 Unlikely		2 Immediate locality 2 First aid		1 Not significant 1 No injury		Severity consequences		Risk score
5 Fatalities		5 Outside site	4 Major injury	4 Whole site	3 Part of site	3 Minor injury	2 Immediate locality	1 Not significant	1 No injury	Severity consequences		
Risk score	25-16 First priority (immediate)		16-12 Second priority (3 months)		12-8 Third priority (1 year)		8-0 To be reviewed					
Haz No.	Control effectiveness: H - High, M - Medium, L - Low, A - Automatic system											
	Existing Controls											
	List Hazards, then Risks											



Sheet 1 of 2

# RISK ASSESSMENT

**Quarry/depot/site:** Glensanda  
**Location:** Quarry 2  
**Ref. No:** GL/RA/SG/SL032  
**Assessment date:** 07/02/2005

**Who might be harmed?** Employees  
 Nos. Contractors 0 Visitors 0 Young persons 0 Public 0 Others 0 Nos. 0  
**By whom:** Jon Derham  
**Assisted by:** Donald MacCallum  
**Activity:** Loading armourstone on to barge at barge jetty

**Next review due:** As per Q-Pulse

Ratings before existing controls implemented				Ratings after existing controls implemented				Hazard likelihood		
Hazard likelihood										
Severity consequences		Environment Healthy & Safety		5 Likely - 4 Probable - 3 Possible - 2 Remote - 1 Unlikely		Severity consequences				
Risk score		5 Outside site 5 Fatality		4 Whole site 4 Major injury		1 Not significant 1 No injury				
Haz. No.		25-16 First priority (immediate)		16-12 Second priority (3 months)		8-0 To be reviewed				
List Hazards, then Risks				Existing Controls						
5	3	15	1	Stone on roadways/pedestrian trips, vehicle accident		Stone removed from working areas before and after operation	H	6	3	2
3	5	15	2	Loader operation/loader colliding with personnel and vehicles		Close road and post sentries to warn and exclude traffic	H	5	5	1
3	5	15	3	Restricted visibility from loader/loader colliding with pedestrian or vehicle		Close road and post sentries to warn and exclude traffic	H	5	5	1
5	3	15	4	Stone falling from loading shovel/stone hitting persons, stone creating hazard on roadway		Stone removed from working area after operation	M	6	3	2
5	3	15	5	Unnecessary traffic and personnel in area/increased risk of collision		Close road and post sentries to warn and exclude traffic	H	3	3	1
3	5	15	6	Road traffic/sentries hit by vehicles		Sentries wear hi viz and park Land Rovers in road	H	5	5	1
3	2	6	7	Loader reversing into parking area/colliding with parked vehicles		Ensure parking area sufficiently clear before starting operation	H	2	2	1
3	5	15	8	Personnel disembarking from personnel boats/personnel in path of loading shovel		Sentry to warn new arrivals on site of loader operation and control traffic	M	5	5	1
2	5	10	9	Weight of loader and cargo/loader capsizing barge		Barge crew member to direct loading operation	H	5	5	1
3	5	15	10	Restricted space on barge deck/unnecessary crew on deck crushed by loader		Only one crew member needed on deck to direct loading	M	10	5	2
3	5	15	11	Tide levels/high or low tide could make operation more dangerous		Postpone operation if necessary	M	3	1	3
3	5	15	12	Poor weather conditions, poor visibility/increased likelihood of collision		Postpone operation if necessary	M	3	1	3
				Environmental						
				No environment hazards identified						

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Hazard No.	List risks not controlled adequately and what will be done	When (date)	By whom	Job card no.
All	Consider alternative of loading barge at armourstone jetty. This will reduce hazard of moving stone along roadways, but there will be increased hazard of loading and operating a second machine on barge deck.			
	Consider storing armourstone ready at the barge jetty if required for loading onto barge. However this will be an additional hazard if stored there for any length of time			

